

IN THE CLAIMS

1-63. (canceled)

64. (previously presented) A method to screen compounds to identify candidate therapeutic agents comprising the steps of:

contacting a test compound with a serine racemase comprising the amino acid sequence shown in SEQ ID NO:10;

assaying activity of the serine racemase; and

identifying a test compound as a candidate therapeutic agent if it modulates the activity of the serine racemase.

65. (previously presented) The method of claim 64 wherein the candidate therapeutic agent inhibits the activity of the serine racemase.

66. (previously presented) The method of claim 64 wherein the candidate therapeutic agent increases the activity of the serine racemase.

67-82. (canceled)

83. (currently amended) A method to screen compounds to identify candidate therapeutic agents comprising the steps of:

contacting a test compound with ~~the serine racemase of claim 67~~ a preparation of isolated serine racemase, wherein the serine racemase (1) has a specific activity of at least 0.075 μ mole L-serine/mg/hour, (2) comprises an amino acid sequence which is at least 85% 95% identical to SEQ ID NO:8 or SEQ ID NO:10 as determined according to the Smith-Waterman homology search algorithm, using an affine gap search with gap open penalty of 12 and a gap extension penalty of 1, and (3) comprises a pyridoxal 5' phosphate binding region consisting of

amino acids 47-60 of SEQ ID NO:8 or SEQ ID NO:10, wherein differences between the amino acid sequence of the serine racemase and SEQ ID NO:8 or SEQ ID NO:10 lie in conservative amino acid substitutions which do not abolish serine racemase activity;

assaying activity of the serine racemase; and

identifying a test compound as a candidate therapeutic agent if it modulates the activity of the serine racemase.

84. (previously presented) The method of claim 83 wherein the candidate therapeutic agent inhibits the activity of the serine racemase.

85. (previously presented) The method of claim 83 wherein the candidate therapeutic agent increases the activity of the serine racemase.

86-97. (canceled)